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A systematic review and meta-analysis of osteoporosis and low bone mass in patients with schizophrenia: Implications for physical therapy practice

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Purpose and relevance

People with schizophrenia may be at risk of presenting with low bone mass (including osteopenia and osteoporosis) due to a complex range of factors. Low bone mass is a risk factor for fractures which is associated with significant morbidity and mortality. We aimed to clarify the prevalence and moderators of low bone mass, osteoporosis and osteopenia in patients with a diagnosis of schizophrenia. The implications for physical therapy practice will be discussed.

Methods

We searched major electronic databases from inception until November 2013 and conducted the review in line with the MOOSE guidelines and the PRISMA statement. We included articles that reported prevalence rates of osteoporosis and osteopenia according to the WHO criteria in people with a diagnosis of schizophrenia. Two reviewers independently extracted the data and completed methodological appraisal of each study.

Results

From 689 candidate publications we included 19 articles with 3038 people with schizophrenia and 1126 controls. We found that one in two people with schizophrenia had low bone mass (51%, CI: 43-60%) and they were almost twice as likely to experience this as age and gender matched controls (OR: 1.9, CI: 1.3-2.7). We also found that around one in ten patients with schizophrenia had osteoporosis (13.2%, CI: 7.8-21.6%) but that the risk of osteoporosis was over two and a half times that seen in the control populations (OR: 2.86, CI: 1.27-6.42). The pooled prevalence of osteopenia in patients with schizophrenia was 40.0% (CI: 34.7-45.4%). A number of moderators were identified within the analysis and will be discussed.

Conclusion

Around one in two patients have low bone mass and patients with schizophrenia are over two and half time likely to have osteoporosis than controls. Bone health assessments should form a routine part of the multidisciplinary care of patients with schizophrenia.

Implications for physical therapy practice

Physical activity is effective in preventing and managing low bone mass and physiotherapists should take a leading role. People with schizophrenia are at great risk of falls and physiotherapists are likely to have an increasing role in falls prevention. This will be particularly important due to the greatly increased risk of fractures due to the increased prevalence of low bone mass.